

ABSTRACT OF THE DISCLOSURE

A catalyst system useful for polymerizing olefins is disclosed. The catalyst system comprises an activator and an organometallic complex that incorporates a Group 3 to 10 transition metal and at least one chelating, dianionic triquinane ligand. The *cis,syn,cis*-triquinane
5 framework is generated in three high-yield steps from inexpensive starting materials, and with heat and light as the only reagents. By modifying substituents on the triquinane ligand, polyolefin makers can control catalyst activity, comonomer incorporation, and polymer properties.